

REMARKS

Upon entry of the present amendment, claims 3-5, 10-16 and 18-21 will remain pending in the above-identified application with claims 3-5 and 10-15 being withdrawn from consideration based upon an earlier Restriction Requirement, and remaining claims 16, and 18-21 standing ready for further action on the merits.

Claims 16 and 21 have been amended and claim 17 has been cancelled. No new matter is being introduced by the present amendments to the claims. For example, the amendment to claim 16 finds support in claim 17, now cancelled.

Accordingly, entry of the present amendment and proper consideration of each of pending claims 16 and 18-21 is requested at present.

Claim Objection

At page 2 of the Office Action, first paragraph, the Examiner points out a typographical error in pending claim 21. Claim 21 has been amended herein to correct the noted typographical error. Thus, it is submitted that this objection has been rendered moot and should now be properly withdrawn.

35 USC § 112, 2nd Paragraph Rejection

At paragraphs "2-3." on page 2 of the Office Action, the Examiner has rejected claims 16 to 21 under the provisions of 35 U.S.C. § 112, second paragraph, as being indefinite. Reconsideration and withdraw of this rejection is respectfully requested based on the amendments made herein to claim 16, and the following considerations.

In the instant amendment, claim 16 is amended to correct an inadvertent typographical error, wherein the term “corundum” was inadvertently written as “co-random” when preparing the English specification of the instant application.

More specifically, the term “ α -type co-random crystal” is corrected herein to properly read “ α -type corundum crystal”. The term “ α -type corundum crystal” is a common term in the art, and would in no way be deemed as indefinite by those skilled in the art. For example, “WA#1000” manufactured by Fujimi Incorporated is described as an example of a high-purity alumina in the specification (see page 17, lines 11-18 of the instant specification), and at the following webpage “<http://www.fujimiinc.co.jp/english/products/02.html>”, of the Fujimi Incorporated website at it is shown that Fujimi Incorporated’s “WA” line of alumina products contain “ α -type **corundum** crystal” (*see attachment*).

Further to the above, one of ordinary skill in the art upon seeing the original term “ α -type co-random crystal” in the specification would easily recognize the same as a typographical error and would mentally disregard it as a misprint and substitute “ α -type corundum crystal” in its place. *In re Yale*, 168 USPQ 46 (CCPA 1970).

Thus, not only is it not new matter to make the current amendment to the specification (including abstract) and instant claim 16 to change the term “ α -type co-random crystal” to “ α -type corundum crystal”, but the same amendment is also effective to render moot the USPTO’s prior rejection of the term “ α -type **co-random** crystal” in claim 16.

Accordingly, Applicants traverse the outstanding rejection under 35 USC § 112, second paragraph, and respectfully request reconsideration and withdrawal thereof.

Claim Rejections - 35 U.S.C. § 103(a)

At pages 3-6, the Examiner sets forth a rejection of claims 16-21 under 35 USC § 103(a) over Najo US '580 (US Publication 2002/0028580) in view of Thomas US '406 (US 6,379,406).

Applicants traverse this rejection, and respectfully request reconsideration and withdrawal thereof, based upon the following information.

Legal Standard for Determining Prima Facie Obviousness

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

“There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art.” *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) (The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a *prima facie* case of obvious was held

improper.). The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999).

“In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification.” *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. “The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art.” *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also *In re Lee*, 277 F.3d 1338, 1342-44, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002) (discussing the importance of relying on objective evidence and making specific factual findings with respect to the motivation to combine references); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Distinctions Over the Cited Art

The present invention is directed to a polishing composition as recited in sole independent claim 16. The polishing agent of claim 16 comprises a “roll-off reducing agent comprising an inorganic compound”, and further “the inorganic compound is at least one compound selected from the group consisting of a sulfur-containing inorganic acid or a salt thereof, a phosphorus-containing inorganic acid or a salt thereof, a halogen-containing inorganic acid or a salt thereof, a carbonate, a cyanate, and a metal atom-containing inorganic acid or a salt thereof” (the specific inorganic compound).

At page 4, lines 4-9 of the outstanding Office Action, the Examiner states as follows in support of the rejection of claims 16-21:

“Since Najo’s slurry comprises the same composition as claimed by applicants, then using Najo’s slurry in the same manner as claimed in the present invention would result the same wherein an inorganic compound having a property of controlling a surface potential of an abrasive in a polishing composition, wherein a surface potential of the abrasive in a standard polishing composition is controlled to -110 to 250mV by the presence the inorganic compound.”

However, Najo US ’580 and Thomas US ’406 fail to disclose or suggest the specific inorganic compound as presently claimed.

Thus, the polishing composition of the present invention is clearly distinguished from the cited references.

Further, a technique disclosed in Najo US ’580 and Thomas US ’406 belongs to the field of polishing a semiconductor substrate. In this field, reducing rolling-off is not a technical issue to be concerned with. Thus, the cited references fail to give any consideration to the issue of reducing roll-off.

Alternatively, reducing roll-off is a specific technical problem to be solved in the field of polishing a magnetic disk substrate, to which the present invention relates.

Accordingly, Najo US '580 and Thomas US '406 do not provide any motivation to arrive at the instant invention as claimed.

Combination of the Cited References

A *prima facie* case of obviousness is not established even if the cited references are combined since none of the cited references disclose or suggest the specific inorganic compound, which is recited in claim 16. Likewise, it follows that a person having ordinary skill in the art would not be motivated by any of the teachings of the cited references to arrive at the present invention.

Accordingly, neither Najo US '580 nor Thomas US '406 provide any motivation to arrive at the instant invention as claimed.

Accordingly, for the above reasons, it is also submitted that the instant invention as recited in pending claims 16 and 18-21 is not obvious over the cited art of Najo US '580 and Thomas US '406 references of record.

Provisional Request for Interview

Should the present response not place the application in condition for allowance, Applicants respectfully request a personal interview with the Examiner. The Examiner is respectfully requested to contact the undersigned with regard to scheduling a personal interview.

CONCLUSION

Based upon the amendments and remarks presented herein, the Examiner is respectfully requested to issue a notice of allowance, clearly indicating that each of pending claims 16 and 18-21 currently under consideration is allowable at present.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact John W. Bailey (Reg. No. 32,881) at the telephone number below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated: June 13, 2006

Respectfully submitted,

By 

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Attachments: Clean version of amended abstract; and

Copy of webpage of Fujimi Incorporated website "<http://www.fujimiinc.co.jp/english/products/02.html>"

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Corporate Profile Products Investor Relation

Products

Lapping

▶ Lapping & Grinding

Polishing

Other Products

Inquiry about the product

Lapping & Grinding

Product information

A

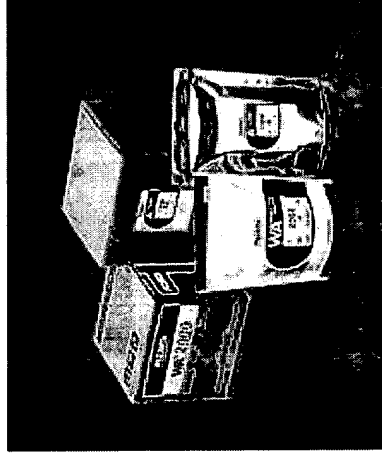
Regular Fused Alumina

WA

White Fused Alumina

PWA

Platelet Calcined Alumina



A is the most widely known abrasive powder, popularly called alundum. This product is made by melting bauxite in an electric furnace at a temperature of 2000°C to obtain aluminumoxide (Al_2O_3) corundum crystal of at least 90% purity. One special feature of this product is that the toughness (tenacity) of the abrasive particles has been increased by fusing them with a small percentage of titanium. As a result, A has the highest degree of toughness among all Fujimi abrasive powders.

This product, which is manufactured to sustain a consistent distribution of particle sizes, is a highly efficient abrasive and will not scratch the surface of the workpiece, and maintains great stability as it functions as an abrasive. A is well suited for use as a material in super-finishing precision grindstones and super-finishing lapping cloth or paper. It is the most suitable abrasive powder for use on cathode-ray tubes and related glassware, and soft metals, where precision lapping is required.

WA WA is a fused white alumina abrasive powder. It is a product with a wide variety of uses, and typical of the powders used in precision processing. It is produced by crushing fused alumina into a powder and then sorting the particles into a uniform size. WA has an α -type corundum crystal

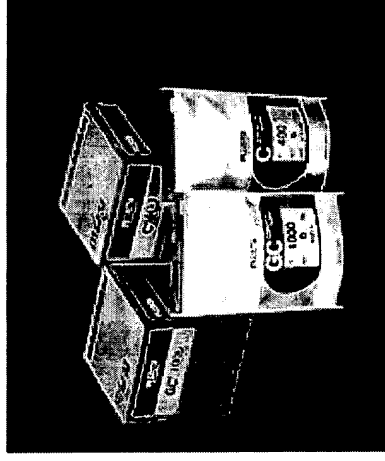
configuration. It is a high-purity alumina, with at least a 99.0% pure Al_2O_3 composition. It has a hardness next to that of silicon carbide (SiC), a closely controlled particle size distribution, a consistent particle shape, and has the potential to be used for high-level surface processing. WA has superior qualities for use as a material in super-finishing precision grindstones, super-finishing lapping cloth or paper, and lapping tape for super-precision surface finishing. It is also well suited for precision lapping of such materials as metals, quartz crystal and semiconductors with low tensile strength.

PWA PWA is a high-quality alumina-type abrasive powder, consisting of a plate-shaped crystal of Al_2O_3 with a purity of over 99.0%. It has excellent heat-resistant properties as well as being chemically inert, and is not corroded by either acids or alkalis. As the particle size distribution of PWA is tightly controlled, it can produce a very fine lapped surface, giving it superlative effectiveness as an abrasive. With a tremendous range of utilizations, PWA is an abrasive powder capable of performing a myriad of functions. In addition to being suitable as a lapping agent for silicon, optical materials, liquid crystal, stainless steel and other metals, PWA is also ideal for use as a filler material for coatings, as a material for coating lapping cloth or paper, and as a compounding agent combined with a metal or synthetic resin.

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Product information

GC
Green Silicon Carbide
C
Black Silicon Carbide



GC GC, green silicon carbide, is a very high purity SiC lapping powder. The hexagonal α -type crystal is just below diamond in terms of hardness, and its chemical stability is excellent at room temperature. The result is a product with superior lapping and polishing capabilities, which is not

affected by chemicals, and can spontaneously generate sharp grinding edges through fragmentation. GC is well suited for use as a lapping powder in a wide range of functions, including the precision lapping and dicing of crystal and ferrite, the slicing of Si ingots, and the processing of materials ranging from ultra-hard metals and edged tools to soft metals such as brass and other copper alloys. Additionally, GC is used in the processing of various resins. GC is also ideal for use in super-finishing precision grindstones. As it possesses the electrical properties of a semiconductor, GC has good heat conductivity and has the ability to withstand high temperatures, making it useful as a material in fine ceramics.

C is a black silicon carbide lapping powder, commonly known as carborundum. Like GC, this product is obtained by fusing silica and coke in an electric furnace at a temperature of more than 2000°C, resulting in a product with an α -type silicon carbide crystal configuration. Although in comparison with GC, C is slightly lower in purity and hardness, it does have excellent toughness. C is manufactured using Fujimi's own unique production methods. Because of its stable cutting edges and its ideal particle size distribution, it is used for abrasive machining. The unique abrasive character of C makes it possible for superior lapping to be done on a work surface. C is ideal for use as a material for precision lapping polishing cloths and papers, and finishing precision grindstones. In addition, it can also be used for precision lapping of cast iron, brass, copper, aluminum, stone, and glass for photomasks. It is also well suited for the precision honing and dicing process necessary for such products as semiconductor crystals.

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